

REMARKS:

- 1) The Examiner's attention is directed to two new Information Disclosure Statements that have been filed after the issuance of the Office Action, namely on August 9, 2002 and September 11, 2002. The Examiner is respectfully requested to consider the references, and to return initialed, signed and dated copies of the Forms PTO-1449 of August 9, 2002 and September 11, 2002, together with the next official communication.
- 2) The Examiner's attention is directed to the enclosed Letter to the Official Draftsperson accompanied by red-marked file copies of Figs. 1, 6, 8, 10 and 13 to 16 showing proposed corrections marked in red. As required in the Office Action, the cross-hatching of the insulating portions has been corrected to show alternating thick and thin diagonal lines. Approval of the correction is respectfully requested.
- 3) With the expectation that the proposed correction of the drawings will be approved, applicants are also enclosing a corrected set of formal drawings which incorporate the proposed corrections. Approval and entry of the new formal drawings are respectfully requested.
- 4) The specification has been amended in an editorial and formal manner, to improve the use of idiomatic English grammar, to correct a few typographical errors, and the like, in the original

application text, which was essentially a literal translation of a corresponding foreign text. The form and content of the Abstract have been revised in conformance with U. S. practice. The amendments are merely editorial in nature, and are supported by the substance and context of the original disclosure. No new matter has been introduced. A Marked-Up Version of the amended portions of the specification is enclosed. Entry of the amendments is respectfully requested.

5) Prior claims 1 to 16 have been cancelled. New claims 17 to 26 have been introduced. The new claims are based on the subject matter of the original claims and other original disclosure as shown in the following table, and do not introduce any new matter. Entry and consideration of the new claims are respectfully requested.

New Claims	17	18	19	20	21
Original Support	cl.1, part of cl.9; Fig.5; pg.7, ln.13-18	Cl.2	Cl.4	Cl.8	Cl.6

New Claims	22	23	24	25	26
Original Support	Cl.3	Cl.7	Cl.5	Cl.1,3,4; Figs.9 to 11; Pg.13, ln.17- pg.14, ln.12	Cl.1,5 to 8; Figs.12 to 15; pg.15, ln.13- pg.16, ln.24

6) Referring to section 1 on page 2 of the Office Action, the title of the invention has been amended to be more descriptive of the invention to which the claims are directed.

7) Referring to section 2 on page 2 of the Office Action, the drawings have been corrected as required. Namely, the enclosed proposed drawing correction shows the cross-hatching of the insulative portions with alternating thick and thin diagonal lines. This correction has also been incorporated in the enclosed new formal drawings. Approval of the corrected drawings, and withdrawal of the objection are respectfully requested.

8) Referring to sections 3 and 4 on pages 2 to 3 of the Office Action, the rejection of original claims 1 to 16 as indefinite under 35 U.S.C. §112, second paragraph has been obviated by the cancellation of those claims. The new claims 17 to 26 do not suffer the indefinite aspects pointed out by the Examiner in the original claims. It is submitted that the new claims particularly point out and distinctly claim the subject matter of the invention, and are thus definite under 35 U.S.C. §112, second paragraph. The Examiner is respectfully requested to withdraw the rejection.

9) Referring to sections 5 to 9 on pages 3 to 5 of the Office Action, the rejection of claims 1 and 2 as anticipated by U. S. Patent 5,980,322 (Madsen et al.), the rejection of claims 3 to 8 as obvious over Madsen et al., and the rejection of claims 9 to 16 as obvious over Madsen et al. in view of U. S. Patent 6,102,722 (Arnett) have been obviated by the cancellation of the original claims 1 to 16. These rejections and the disclosures of the applied references will be discussed in connection with

the new claims 17 to 26, which include three independent claims 17, 25 and 26.

10) New **independent claim 17** is directed to an electric connector for electrically connecting a first article with a second article. Particularly, the first article includes an electric wire, and the second article includes a conductive part that is to be electrically connected to the wire via the connector.

The electric connector includes a housing that is fitted onto at least one of the articles, and a crimping contact provided in a cavity in the housing. This crimping contact includes a crimpable connecting part that is to be connected to the electric wire within the cavity of the housing. In other words, this crimpable connecting part will establish a crimped connection with the electric wire, protected within the cavity of the housing. In this regard, the crimpable connecting part includes a crimpable wire barrel and a crimpable insulation barrel that are respectively to be crimped onto the conductor core and the insulation jacket of the electric wire.

The crimping contact further includes a contacting part protruding out of the cavity of the housing so as to press against and contact the conductive part of the second article.

With such a structure, the present electric connector provides a very simple and economical device for electrically connecting the electric wire of the first article with the conductive part of the second article. The electric connector is easily adaptable to different situations and article configurations, merely by providing a different length of the electric

wire, for example. Also, the crimping contact is a very simple element for establishing a secure, permanently fixed connection with the electric wire, for example more secure and permanent in comparison to an insulation displacement type contact. Furthermore, since the crimping contact includes the crimpable connecting part as well as the contacting part in one single item or unit, i.e. the crimping contact, if there is any trouble or defect with the contact, then it is a simple matter to replace the defective contact without disrupting other contacts or the housing or any other parts of the overall electric connector.

- 11) In comparison to present **independent claim 17**, Madsen et al. do not disclose or suggest several of the features of the inventive electric connector.

Madsen et al. do not disclose or suggest a crimping contact that is to be connected to an electric wire. Instead, the connector of Madsen et al. has conductive terminals (98), which each have two opposite free ends (100, 102) for making contact with separate conductive members.

Furthermore, Madsen et al. do not disclose or suggest a crimping contact, or any type of contact, provided in a cavity in the housing so as to be connected to an electric wire within the cavity of the housing. To the contrary, the electrical terminals (98) of Madsen et al. extend continuously and entirely through the cavity of the housing, whereby fuse portions of these conductive elements are formed within the cavity of the housing. Both contact portions, i.e. the terminal ends (100, 102), extend outwardly out of the housing for making their respective electri-

cal contacts. Providing a fuse portion within a cavity of a housing would not have suggested, but rather would have motivated away from, the provision of a contact member to be connected to an electric wire within the cavity of the housing.

For the above reasons, the invention of independent claim 17, and claims 18 to 24 depending therefrom, is not anticipated by, and would not have been obvious over, Madsen et al.

12) The Examiner has further turned to Arnett for disclosing an insulation displacement connector, which the Examiner has proposed would have been combined with the electrical connector according to Madsen et al. Even if the insulation displacement connector according to Arnett would have been combined in the electrical connector according to Madsen et al., the present invention of claim 17 would not have been suggested.

While Arnett discloses an insulation displacement connector, Arnett does not disclose or suggest a crimping contact including a crimpable wire barrel and a crimpable insulation barrel to be crimped onto the conductor core and the insulation jacket of an electric wire.

Furthermore, if the insulation displacement contacts according to Arnett would have been used with the electrical connector of Madsen et al., the insulation displacement contacts would apparently have been necessarily provided at the ends (100) of the conductive terminals (98) (see col. 12, lines 19 to 23 of Madsen et al.). Madsen et al. would not have suggested, or even allowed for, the arrangement of the insulation displacement contacts within the cavity of the housing, because the fuse

portions of the terminals are arranged in the cavity of the housing according to Madsen et al.

Also, Arnett would not have suggested arranging the insulation displacement contacts within a cavity of the housing. Instead, Arnett arranges the insulation displacement contacts externally exposed outside of the housing and clearly not within the cavity of the housing. Note that the arrangement of Arnett is, in effect, the reverse of the presently claimed arrangement. Namely, Arnett has a contacting part that is entirely arranged within a cavity of the housing, and a wire connecting part that is exposed out of the housing, while on the other hand, present claim 17 calls for a wire crimping contact provided in a cavity of the housing, and a contacting part protruding out of the cavity. The teachings of Arnett regarding the contact member are thus directly opposite the present invention.

- 13) For the above reasons, the present invention of claims 17 to 24 would not have been anticipated by or obvious over the Madsen et al. and Arnett references, whether considered individually or in combination.
- 14) New **independent claim 25** is directed to an electrical connector of the embodiment exemplified in present Figs. 9 to 11. The electrical connector includes an electrically insulating housing having a cavity therein, and an electrically conductive contact member.

The contact member includes a wire connecting part that is situated in the cavity of the housing and is configured and

adapted to be connected to a wire, and a contacting part that is exposed out of the cavity and is configured and adapted to be pressingly contacted against an electrical contact.

The housing includes a block-shaped body and two elastically deflectable wings protruding laterally outwardly in opposite directions from two opposite side surfaces of the block-shaped body. The elastically deflectable wings can take up two positions including a first position in which the wings are unstressed and protrude laterally outwardly in opposite directions from the two opposite side surfaces of the block-shaped body and a second position in which the wings are elastically deflected and stressed to extend along and adjacent to the two side surfaces of the block-shaped body while exerting an elastic restoring force outwardly away from the two side surfaces.

15) In comparison to present **independent claim 25**, the references neither disclose nor suggest the inventive combination of features.

Madsen et al. do not disclose or suggest a wire connecting part of a contact member situated in a cavity of the housing.

Arnett discloses a wire connecting part of a contact member, but that wire connecting part is situated outside of the housing rather than in a cavity of the housing. Also, the pressing-contact part according to Arnett is received in a cavity of the housing rather than being exposed out of the cavity of the housing as recited in the present claim.

While the Examiner has referred to the latching member (124) cooperating with a resilient latch member (130) of the Madsen et

al. connector in comparison to the inventive elastic wing, those structures of the conventional connector are not the same as or similar to the elastically deflectable wings more particularly defined in present independent claim 25. The components (124, 130) according to Madsen et al. cannot selectively take up two positions including a first position in which the wings are unstressed and protrude laterally outwardly in two opposite directions, and a second position in which the wings are elastically deflected and stressed to extend along and adjacent to the two opposite side surfaces of the body of the housing while exerting an outwardly directed elastic restoring force. Such "deflectable" "wings" as presently claimed, and exemplified in present Figs. 9 to 11 are neither disclosed nor would have been suggested by the components (124, 126, 128, 130) of Madsen et al.

The Arnett connector also does not include any components that are suggestive of the presently claimed "wings" having the recited features.

For the above reasons, the invention of present independent claim 25 is not anticipated by, and would not have been obvious over, the Madsen et al. and Arnett references.

16) Present **independent claim 26** is directed to an electrical connector of the embodiment exemplified in present Figs. 12 to 15. This connector includes an electrically insulating housing and an electrically conductive contact member.

The electrically conductive contact member includes a wire connecting part that is situated in a cavity of the housing and is to be connected to a wire. The electrically conductive con-

tact member further includes a contacting part that is exposed out of the cavity of the housing and is to be pressingly contacted against an electrical contact.

The housing includes a block-shaped body having a major surface with an opening through which the contacting part protrudes, and two side surfaces extending from opposite edges of the major surface. The housing further includes two locking pawls extending along the two side surfaces of the housing block, parallel to each other and to the contacting direction, and protruding away from the block-shaped body parallel to the contacting direction in which the contacting part protrudes through the opening in the major surface of the housing. Furthermore, these locking pawls are each elastically deflectable in a direction toward and/or away from each other parallel to the major surface of the block-shaped body of the housing.

17) The references neither disclose nor suggest the inventive combination of features.

The Examiner has referred to a latching member (124) and a resilient latch member (130) of the Madsen et al. connector as being suggestive of the present inventive locking pawls. However, the structures of Madsen et al. do not disclose or suggest the features of the locking pawls as now more clearly defined in claim 26. Namely, Madsen et al. do not disclose or suggest two locking pawls that extend along side surfaces of the connector housing, parallel to each other and to a contacting direction, and protrude away from the block-shaped body of the housing parallel to the contacting direction. Furthermore, Madsen et al.

do not disclose or suggest such locking pawls that are elastically deflectable toward and away from each other parallel to a major surface of the block-shaped body of the housing.

The connector according to Arnett appears to have elastic latch hooks incorporated in the side walls of the housing, but those latch hooks of Arnett do not protrude away from the block-shaped body of the housing, but rather are incorporated directly in the housing walls.

Madsen et al. do not disclose or suggest the provision of a wire connecting part situated in a cavity of the housing.

Arnett suggests a wire connecting part of a contact member arranged outside of and exposed from the housing. A combination of the teachings of the references still would not have suggested the arrangement of a wire connecting part situated in a cavity in the housing. That is directly opposite the contacting arrangement according to Arnett, and would not have been possible in view of the provision of fuse portions within the cavity of the housing according to Madsen et al.

For the above reasons, the invention of present independent claim 26 is not anticipated by and would not have been obvious over the Madsen et al. and Arnett references.

- 18) The Examiner is respectfully requested to withdraw the prior art rejections applying Madsen et al. and Arnett, because these rejections do not apply against the present claims 17 to 26 for the above reasons.

19) Favorable reconsideration and allowance of the application, including all present claims 17 to 26, are respectfully requested.

Respectfully submitted,

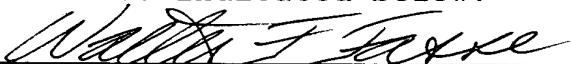
Masaaki HARASAWA et al.
Applicant

WFF:ar/4293
Encls.: postcard, Term
Extension Request, Form
PTO-2038, Marked-Up Version
of amended spec. pgs. 1,2,
4,5,8 to 11,13,15,19,20,25,
Letter to Official Draftsperson,
red-marked file copy of Figs. 1,
6, 8, 10 and 13 to 16, Formal
Drawing Transmittal, 7 sheets
of formal drawings with formal
Figs. 1, 6, 8, 10 and 13 to 16
thereon

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence with all indicated enclosures is being deposited with the U. S. Postal Service with sufficient postage as first-class mail, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D. C. 20231, on the date indicated below.

 1/2/03
Name: Walter F. Fasse - Date: January 2, 2003